

TITLE

5       USE OF THE KCNQ2 AND KCNQ3 GENES FOR THE DISCOVERY OF  
AGENTS USEFUL IN THE TREATMENT OF NEUROLOGICAL DISORDERS

ABSTRACT

10       This invention relates to the co-expression of KCNQ2  
and KCNQ3 genes in an appropriate mammalian cell line  
(e.g., HEK 293E) to provide a preparation which could be  
used as a high-throughput screen for the discovery of  
15       agents that are either agonists or antagonists of the  
expressed potassium channel. Mutations in the voltage-  
gated potassium channel genes, KCNQ2 and KCNQ3, have been  
linked to inherited forms of epilepsy in humans. One or  
both of these genes are believed to encode the molecular  
20       identity of the M channel. Agonists of the M channel may  
be effective in the treatment of epilepsy, anxiety,  
insomnia or other hyperexcitability disorders whereas  
antagonists may be effective in the treatment of  
Alzheimer's disease, peripheral neuropathy or other  
25       neurodegenerative diseases.